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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/442,499	11/18/99	HO	CS99-065

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IM61/0511

EXAMINER
GOODREAU, G

ART UNIT	PAPER NUMBER
1763	5

DATE MAILED: 05/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09-442,499

Applicant(s)

Ho et al.

Examiner

George Goudreau

Group Art Unit

1763

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 (MONTH(S)) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 3-5-01' (i.e., paper # 4)
- ☒ This action is FINAL
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-5, 7-10, 12-15, 17-34 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-5, 7-10, 12-15, 17-20, 22-26, 28-32, 34 is/are rejected.
- ☒ Claim(s) 21, 27, 33 is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

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15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 1-5, 7-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soga et. al. as applied in paragraph 18 of the previous office action.

18. Claims 17-19, 22-25, 28-31, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soga et. al. as applied in paragraph 18 of the previous office action.

Soga et. al. as applied in paragraph 18 of the previous office action fail to disclose the following aspects of applicant's claimed invention:

-the specific usage of the type of plasma etching apparatus which is claimed by the applicant;

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- the specific usage of the plasma seasoning, and plasma etching process parameters which are claimed by the applicant; and
- the specific processing of 8" diameter wafers in the process taught above

It would have been obvious to one skilled in the art to employ the specific type of etching apparatus which is claimed by the applicant to conduct the etching process taught above based upon the following. The usage of the specific type of plasma etching apparatus which is claimed by the applicant is conventional or at least well known in the plasma etching arts. (The examiner takes official notice in this regard.) Further, the specific usage of the type of plasma etching apparatus which is claimed by the applicant would have simply involved the usage of an alternative, and at least equivalent means for conducting an etching process to those means which are specifically taught above.

It would have been obvious to one skilled in the art to employ a plasma etching apparatus which is capable of processing a variety of different size wafers including those which are 8" in diameter based upon the following. The processing of 8" diameter wafers in a plasma etcher is conventional or at least well known in the plasma etching arts. (The examiner takes official notice in this regard.) Further, it would have been desirable to process wafers which are 8" in diameter since this is common size used for the processing a wafers used to make IC's.

It would have been prima facie obvious to employ any of a variety of different process parameters in the plasma etching, and plasma seasoning processes taught above including those which are specifically claimed by the applicant. These are all well known variables in the plasma

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etching/ plasma seasoning arts which are known to effect both the rate and quality of the plasma etching/ plasma seasoning processes. Further, the selection of particular values for these variables would not necessitate any undo experimentation which would be indicative of a showing of unexpected results.

Alternatively, it would have been obvious to one skilled in the art to employ the specific process parameters which are claimed by the applicant for their plasma seasoning, and plasma etching processes in the process taught above based upon In re Aller. In re Aller is cited of interest to applicant in this regard.

“Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” In re Aller, 220 F. 2d 454, 105 USPQ 233, 235 (CCPA).

Further, all of the specific process parameters which are claimed by the applicant are results effective variable whose value is known to effect both the rate, and the quality of the plasma etching, and plasma seasoning processes.

19. Claims 21, 27, and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

20. Claims 20, 26, and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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-The recitation of a cooled wafer support with a targeted cooling gas flow rate/pressure is inconsistent with the claim preamble of claims 20, 26, and 32 which recite that the seasoning process referred to in these claims is a wafer-less one.

21. Claims 20, 26, and 32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

22. Applicant's arguments filed 3-5-01' have been fully considered but they are not persuasive. Applicant argues the following points regarding the examiner's rejection of their claimed subject matter.

-There is insufficient motivation in the prior art to derive applicant's claimed invention.

The examiner has improperly used hindsight reconstruction to reject applicant's claimed subject matter.; and

-The Soga et. al. reference which was used by the examiner to reject applicant's claimed subject matter fails to disclose the usage of one of the three methods which are now claimed by the applicant for seasoning the plasma etching chamber.

The examiner must disagree.

-The examiner has provided sufficient motivation for rejecting applicant's claimed subject matter over the Soga et. al. reference contrary to what applicant purports. (Please carefully review again the rejection stated in paragraph 18 of the previous office action.); and

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-The Soga et. al. reference does teach the usage of at least one of the three methods which are now claimed by the applicant for seasoning the plasma etching chamber contrary to what applicant purports. The Soga et. al. reference, for example, use a dummy wafer which is comprised of SiO<sub>2</sub> on top of Si in combination with a plasma of (HBr-SiF<sub>4</sub>-SF<sub>6</sub>-O<sub>2</sub>) to season the interior surfaces of the plasma etching chamber.

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner George A. Goudreau whose telephone number is (703) -308-1915. The examiner can normally be reached on Monday through Friday from 9:30 to 6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Examiner Gregory Mills, can be reached on (703) -308-1633. The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) -308-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) -308-0661.

  
George A. Goudreau/gag

Examiner AU 1763

  
**GREGORY MILLS**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**